

Margaret L. Westwater

Curriculum Vitae

Biography

I am a PhD student studying the neurobiology of disordered eating. Research questions include how the experience of stress affects risk for an eating disorder and how interactions between peripheral metabolic markers and neural activity impact eating behavior in healthy and affected individuals. This work involves measurement of metabolic functioning, brain structure, and brain function using magnetic resonance imaging (MRI). Through this integrated approach, I aim to identify mechanisms by which disturbances in interoceptive signaling modulate brain activity and behavior. I am also particularly interested in the role of comorbid psychiatric symptoms in eating disorders.

Education

2016–Present **Doctor of Philosophy, Psychiatry**, *University of Cambridge*, Cambridge, UK.

2015–2016 **Master of Philosophy, Medical Science (Psychiatry)**, *University of Cambridge*, Cambridge, UK.

2011–2014 **Bachelor of Science, Neuroscience**, *George Mason University*, Fairfax, VA, USA,
GPA: 3.91/4.00.
Honors College, Summa cum laude

Honors and Awards

2016–2020 NIH Oxford Cambridge Scholarship

2016–2018 Cambridge Trust International Scholarship

2016 Darwin College Travel Award

2015 Phi Kappa Phi Graduate Fellowship

Undergraduate

2015 Office of Student Scholarship, Creative Activities and Research Student Excellence Award

2014 Phi Beta Kappa

2013 Phi Kappa Phi Honors Society

2012–2013 Provost's Award for Academic Achievement

2011–2014 Merit-based Academic Scholarship, George Mason University Honors College

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Page 1 of 6

Publications

7. **Westwater, ML**, Mancini, F, Shapleske, J, Serfontein, J, Ernst, M, Ziauddeen, H & Fletcher, PC. (2020). Dissociable hormonal profiles for psychopathology and stress in anorexia and bulimia nervosa. *Psychological Medicine*, in press.
6. **Westwater, ML**, Vilar-Lopez, R, Ziauddeen, H, Verdejo-Garcia, A & Fletcher, PC. (2019). Combined effects of age and BMI are related to altered cortical thickness in adolescence and adulthood. *Developmental Cognitive Neuroscience*, 40, 100728. doi:10.1016/j.dcn.2019.100728.
5. **Westwater, ML**, Seidlitz, J, Diederer, KMJ, Fischer, S & Thompson, JC. (2018). Associations between cortical thickness, structural connectivity and severity of dimensional bulimia nervosa symptomatology. *Psychiatry Research: Neuroimaging*, 271, 118 - 125. doi:10.1101/127910.
4. Basil, R, **Westwater, ML**, Weiner, M & Thompson, JC. (2017). Disrupting the right superior temporal sulcus impairs emotional recognition through biological motion. *Open Mind*, 1(3), 48 - 158.
3. Young, K, Machell, K, Kashdan, TB, & **Westwater, ML**. (2018). The cascade of positive events: Does exercise on a given day increase the frequency of additional positive events? *Personality and Individual Differences*, 120, 299 - 303. doi:10.1016/j.paid.2017.03.032
2. Fischer, S, Breithaupt, LE, Wonderlich, JA, **Westwater, ML**, Thompson, JC, Crosby, RD, Engel, S, Lavender, J, & Wonderlich, SA. (2017). Impact of the neural correlates of stress and cue reactivity on stress and binge eating in the natural environment. *Journal of Psychiatric Research*, 92, 5 – 23. doi:10.1016/j.jpsychires.2017.03.017.
1. **Westwater, ML**, Fletcher, PC, & Ziauddeen, H (2016). Sugar addiction: the state of the science. *European Journal of Nutrition*, 55(2), 55 – 69. doi:10.1007/s00394-016-1229-6.

Submitted Manuscripts

1. **Westwater, ML**, Mancini, F, Gorka, AX, Shapleske, J, Serfontein, J, Grillon, C, Ernst, M, Ziauddeen, H & Fletcher, PC. Prefrontal responses during proactive and reactive inhibition are differentially impacted by stress in anorexia and bulimia nervosa.

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Page 2 of 6

Conference Posters

17. Foray, K, Philips, R, **Westwater, ML**, Gorka, AX, Weiss, E, Beale, A, Manbeck, A, Grillon, C, & Ernst, M. (2020). Effects of intolerance of uncertainty, salience, and valence on decision-making in healthy volunteers. Society for Clinical Child and Adolescent Psychology, Washington, DC.
16. **Westwater, ML**, Seidlitz, JM, Mallard, TT, Bethlehem, RAI, Grillon, C, Fletcher, PC, & Ernst, M. (2020). Morphometric profiles of eating disorder symptomatology in the ABCD Study. Organization for Human Brain Mapping, Montreal, CA.
15. **Westwater, ML**, Seidlitz, JM, Ernst, M, Ziauddeen, H, & Fletcher, PC. (2020). Convergence and divergence of structural covariance networks in anorexia and bulimia nervosa. Society of Biological Psychiatry, New York, USA.
14. **Westwater, ML**, Gorka, AX, Mancini, F, Grillon, C, Ernst, M, Ziauddeen, H, & Fletcher, PC. (2019). An examination of stress responses, inhibitory control and food intake in women with eating disorders. Society for Neuroscience, Chicago, USA.
13. **Westwater, ML**, ML, Gorka, AX, Mancini, F, Grillon, C, Ernst, M, Ziauddeen, H, & Fletcher, PC. (2019). An examination of stress responses and impulsivity in women with eating disorders. Cambridge Neuroscience Symposium, Cambridge, UK.
12. Thompson, JC & **Westwater, ML**. (2017). Pavlovian-instrumental interactions during social reinforcement learning. Conference on Cognitive Computational Neuroscience, New York, USA.
11. **Westwater, ML**, Vilar-Lopez, R, Diederer, KMJ, Ziauddeen, H, Fletcher, PC, & Verdejo-Garcia, A. (2016). Alterations in cortical thickness are related to the combined effects of age and BMI in adolescence and adulthood. Society for Neuroscience, San Diego, USA.
10. Fischer, S, Wonderlich JA, Breithaupt, L, Collins, B, Thompson, J, Engel, S, Crosby, R, **Westwater, ML**, & Wonderlich, SA. (2016). Integration of neuroimaging and ecological momentary assessment to study the impact of acute stress on individual differences in reward processing and binge eating in bulimia nervosa. Eating Disorders Research Society Conference, New York, USA.
9. **Westwater, ML**, Diederer, KMJ, Wagstyl, K, Thompson, JC, & Fischer, S. (2016). Cortical thinning of inferior frontal regions is associated with symptom severity in bulimia nervosa. Organization for Human Brain Mapping, Geneva, Switzerland.
8. Thompson, JC, **Westwater, ML**, & Kirby, Z. (2016). Midfrontal Theta EEG Reflects Competition Between Pavlovian and Instrumental Systems During Social Reinforcement Learning. Cognitive Neuroscience Society, New York, USA.
7. Basil, RA, **Westwater, ML**, Wiener, M, & Thompson, JC. (2016). Disrupting the right superior temporal sulcus impairs emotional recognition through biological motion. Cognitive Neuroscience Society, New York, USA.
6. Breithaupt, L, **Westwater, ML**, Fischer, S, & Thompson, JC. (2015). Altered functional connectivity in bulimia nervosa: A resting state fMRI study. Eating Disorder Research Society Conference, Torino, Sicily.

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Page 3 of 6

5. **Westwater, ML**, Blalock, D, Young, KC, & Kashdan, TB. (2014). Daily Appreciation of Character Strengths and Relationship Satisfaction in Romantic Couples. Association for Behavioral and Cognitive Therapies Convention, Philadelphia, USA.
4. **Westwater, ML**, Young, KC, Blalock, D, & Kashdan, TB. (2014). Daily strengths use in romantic relationships: Does one partner's strengths use influence the other's? Association for Behavioral and Cognitive Therapies Convention, Philadelphia, USA.
3. Mallard, TT, **Westwater, ML**, & Kashdan, TB. (2014). The anxiolytic role of mindfulness in daily life. Association for Behavioral and Cognitive Therapies Convention, Philadelphia, USA.
2. Fischer, S, Breithaupt, LE, Thompson, JC, Engel, SE, **Westwater, ML**, Zhu, M, & Gaydusek, D. (2014) Integration of Neuroimaging and Ecological Momentary Assessment to Examine the Relationship of Stress and Binge Eating in Bulimia Nervosa. Eating Disorder Research Society conference, San Diego, USA.
1. Young, KC, **Westwater, ML**, Machell, K, Bonner, J, & Kashdan, TB. (2013). How does exercise on a given day influence social anxiety symptoms? Association for Behavioral and Cognitive Therapies Convention, Nashville, USA.

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Page 4 of 6

Research Experience

- 2017–Present **Predoctoral Intramural Research Fellow**, *Section on Neurobiology of Fear and Anxiety, NIMH, National Institutes of Health, Bethesda, MD, USA.*
Supervisors: Christian Grillon, PhD & Monique Ernst, MD, PhD
- 2016–Present **PhD Student**, *Fletcher Group, Department of Psychiatry, University of Cambridge, Cambridge, UK.*
Supervisors: Paul C. Fletcher, PhD, MRCPsych & Hisham Ziauddeen, PhD, MRCPsych.
- 2015–2016 **MPhil Student**, *Fletcher Group, Department of Psychiatry, University of Cambridge, Cambridge, UK.*
Supervisor: Paul C. Fletcher, PhD, MRCPsych & Hisham Ziauddeen, PhD, MRCPsych.
- 2014–2015 **Research Assistant**, *Perception and Action Neuroscience Group, Department of Psychology, George Mason University, Fairfax, VA, USA.*
Supervisor: James C. Thompson, PhD.
- 2013–2015 **Undergraduate Research Assistant**, *The Impulse Lab, Department of Psychology, George Mason University, Fairfax, VA, USA.*
Supervisor: Sarah Fischer, PhD.
- 2012–2014 **Undergraduate Research Assistant**, *The Well-Being Lab, Department of Psychology, George Mason University, Fairfax, VA, USA.*
Supervisor: Todd Kashdan, PhD.

Computer and Technical Skills

- Basic Brain Site, NeuroScan, L^AT_EX, Presentation, PYTHON
- Proficient AFNI, FSL, Linux/Unix, MATLAB, SPSS, SPM
- Advanced FreeSurfer, R

Outreach

Public engagement

- November 2017 & February 2018 **Teacher**, *Mental Health and Brain Sciences Day, Cambridge Academy for Science and Technology, Cambridge, UK.*
Designed and taught activities on stress and mental health, adolescent brain development and psychosis to sixth form students.
- October 2017 **Teacher**, *Integrative Learning Across Boundaries (iLAB), Jack Hunt School, Peterborough, UK.*
Prepared lesson plans and lectured on brain-body interactions and psychosis to sixth form students in after-school enrichment program.
- 2016–2018 **Editor**, *Psychiatry News Team, Department of Psychiatry, University of Cambridge, Cambridge, UK.*
Write news articles on the latest research and events from the Dept. of Psychiatry.
Selected articles:
 - [How does impulsivity relate to compulsivity? Support for dimensional psychiatry.](#)
 - [Immunopsychiatry offers insights into treatment of depression and psychosis](#)
 - [New evidence of disrupted safety signalling in obsessive compulsive disorder](#)
 - [Cambridge collaboration points to novel effects of naltrexone in alcohol dependence](#)

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Page 5 of 6

- April 2015 **Volunteer**, *Maury Elementary School STEM Exposition*, Washington, DC, USA.
[Integrating science and policy](#)
- 2015–2017 **Podcast Team Member**, *Cambridge University Science and Policy Exchange*,
 University of Cambridge, Cambridge, UK.
- 2014–Present **Advocate**, *Eating Disorders Coalition*, Washington, DC, USA.

Reviewer Experience

Ad hoc reviewer

- *Appetite*
- *Brain*
- *Human Brain Mapping*
- *International Journal of Obesity*
- *Journal of Neuroendocrinology*
- *Molecular Metabolism*
- *Neuroscience & Biobehavioral Reviews*
- *Neuroscience Letters*
- *Obesity Reviews*
- *Peptides*
- *Pharmacology, Biochemistry, and Behavior*
- *Philosophical Transactions of the Royal Society B*
- *Psychological Medicine*
- *World Journal of Biological Psychiatry*

Membership in Professional Societies

- Organization for Human Brain Mapping
- Society of Biological Psychiatry

Referees

| | | | |
|--------------------|--|--------------------|------------------------------------|
| Name | Prof Paul Fletcher | Name | Dr Hisham Ziauddeen |
| Position | Bernard Wolfe Professor of Health Neuroscience | Position | Clinical Senior Research Associate |
| Institution | University of Cambridge | Institution | University of Cambridge |
| Contact | pcf22@cam.ac.uk | Contact | hz238@cam.ac.uk |
| Name | Dr Monique Ernst | | |
| Position | Senior Research Physician | | |
| Institution | National Institute of Mental Health | | |
| Contact | ernstm@mail.nih.gov | | |

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Page 6 of 6